APPENDIX A

BORING LOGS AND WELL INSTALLATION DETAILS

CUMMINGS RITER

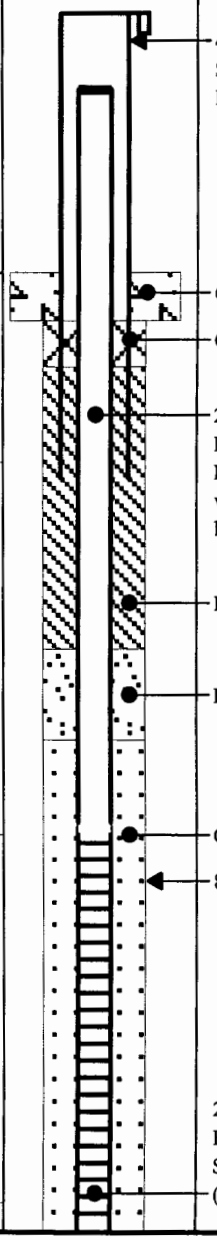
Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 27, 2002
Date Completed: November 27, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-101
Bottom of Well (ft/bgs): 15.9
Bottom of Boring (ft/bgs): 15.9
Depth to Encountered Water (ft/bgs): Dry
Surface Elevation (ft/msl): 16.7

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description
-3.0							
-1.0							Ground Surface
1.0	SS-01	SS	6 16 15 11	1.2	0.0		**FILL MATERIAL** 0.0'-0.3' Limestone rock fragments. 0.3'-2.0' Brown silt and clay; wet; with slag and rock fragments.
3.0	SS-02	SS	6 6 7 7	1.3	0.0		**SILTY CLAY** Brown (7.5YR 5/6) with gray (7.5YR 6/1) mottling and very fine-grained sand; dry; low plasticity; stiff; medium strength; with iron and manganese staining.
5.0	SS-03	SS	9 7 7 9	1.5	0.0		
7.0	SS-04	SS	6 7 9 9	1.5	0.0		**CLAY** Brown (7.5YR 5/6) with gray (7.5YR 6/2) mottling; dry; trace silt; very tight; stiff; high plasticity; with trace iron and manganese staining and trace fine-grained gravel. 8.0'-10.0' Dry to damp with a trace of moist areas, mica fragments, and very fine-grained sand.
9.0	SS-05	SS	6 6 7 8	1.6	0.0-0.6		



Field Scientist: Joseph J. Ozog, Jr.
Checked By:
Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 27, 2002
Date Completed: November 27, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-101
Bottom of Well (ft/bgs): 15.9
Bottom of Boring (ft/bgs): 15.9
Depth to Encountered Water (ft/bgs): Dry
Surface Elevation (ft/msl): 16.7

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-06	SS	5 7 10 9	1.7	0.6-0.7		**CLAYEY SAND and GRAVEL** Brown (7.5YR 5/6) with silt; moist; very stiff; plastic; very fine to coarse-grained sand and gravel; with iron and manganese staining.		8-inch dia. borehole
12.0	SS-07	SS	26 42 50/0.2'	1.0	0.0		**SAND and GRAVEL** Yellowish-brown and gray (10YR 5/8 and 5/1); moist; very dense; no silt; and fine to coarse-grained.		Screened Pipe
	AU	AU	NA	NA	NA				Coarse Silica Sand
14.0	SS-08	SS	50/0.1'	0.0	NA		At 14.0 feet bgs, dry, weathered saprolite rock fragments. (Possible bedrock or large boulder)		
	AU	AU	NA	NA	NA		*Auger Refusal at 15.9 feet bgs.*		2-inch, flush-couple, PVC Bottom Cap
16.0							Bottom of Borehole		
18.0							Notes: AU - Hollow Stem Auger SS - Split Spoon Sample NA - Not Applicable bgs - below ground surface		
20.0									
?.0									

Field Scientist: Joseph J. Ozog, Jr.
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Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 26, 2002
Date Completed: November 26, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-102
Bottom of Well (ft/bgs): 19.2
Bottom of Boring (ft/bgs): 19.2
Depth to Encountered Water (ft/bgs): 13.1
Surface Elevation (ft/msl): 32.60

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
-3.0									4-inch by 5-foot Steel Cover w/ Locking Cap
-1.0							Ground Surface		
							TOPSOIL Brown silt with clay; soft; dry; with organics.		Concrete Pad
1.0	SS-01	SS	9 7 3 3	1.7	0.0		**FILL MATERIAL** 0.7'-2.0' Slag and rock fragments with silt and clay; dry; and dense. 2.0'-6.0' Dark brown and black silt and clay; damp; loose to dense; with rock, slag, and wood fragments. Contains iron staining.		Cement/bentonite Grout
3.0	SS-02	SS	7 6 11 7	0.8	0.0				2-inch ID, Sch. 40, Flush-couple, PVC Riser Pipe w/expandable locking cap
5.0	SS-03	SS	3 1 1 2	0.0	NA		4.6'-6.0' Wet and loose.		Bentonite Pellets
7.0	SS-04	SS	1 4 7 8	1.9	0.0		**SILTY CLAY** With very fine sand; dry; tight; stiff; low to high plasticity; high strength; with manganese and iron staining. 6.0'-6.7' Brown and dark greenish-gray (10YR 5/3 and GLEY1 5/1 5G). Containing wood fragments. 6.7'-8' Brown (10YR 5/3) with gray (10YR 5/1 or 6/1) mottling. 8.0'-10.0' Dry to damp; no manganese staining; and increasing gray mottling.		8-inch dia. borehole
									Fine Sand
9.0	SS-05	SS	11 11 12 12	1.8	0.0				Coarse Silica Sand
									2-inch ID, Sch. 40, Flush-couple, PVC Screened Pipe (0.010-inch slot)

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Client: General Chemical

ocation: Claymont, DE
Project No.: 5455B-02
Date Started: November 26, 2002
Date Completed: November 26, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-102
Bottom of Well (ft/bgs): 19.2
Bottom of Boring (ft/bgs): 19.2
Depth to Encountered Water (ft/bgs): 13.1
Surface Elevation (ft/msl): 32.60

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-06	SS	6 7 8 8	1.6	0.0		10.0'-14.1' Same, but brown and grayish-brown (10YR 5/6 and 5/2) with gray mottling (10YR 5/1); very tight; stiff to hard; with a trace of root fragments.		8-inch dia. borehole
12.0	SS-07	SS	16 13 17 10	1.7	0.0		*Encountered water at 13.1 feet bgs.* 13.1'-13.6' Very fine to coarse-grained sand zone; dark gray (10YR 4/1); wet; trace silt and clay; and dense.		Screened Pipe
14.0	SS-08	SS	4 7 3 3	2.0	0.0		**SAND** Dark grayish-brown (10YR 4/2); wet; fine to coarse-grained; and loose.		Coarse Silica Sand
16.0	SS-09	SS	WOH 3	2.0	0.0		**SANDY CLAY** Dark gray (10YR 4/1) with silt; moist to wet; soft to stiff; medium plasticity; with wet, soft zones **CLAYEY SAND** Dark gray (10YR 4/1) with silt; wet; very fine to medium-grained sand; cohesive; medium plasticity; very soft; no plasticity; with thin wet, loose sand zones.		
18.0	AU	AU	NA	NA	NA				2-inch, flush-couple, PVC Bottom Cap
20.0							Bottom of Borehole		
2.0							Notes: AU - Hollow Stem Auger SS - Split Spoon Sample NA - Not Applicable bgs - below ground surface WOH - Weight Of Hammer		

Field Scientist: Joseph J. Ozog, Jr.

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Date:

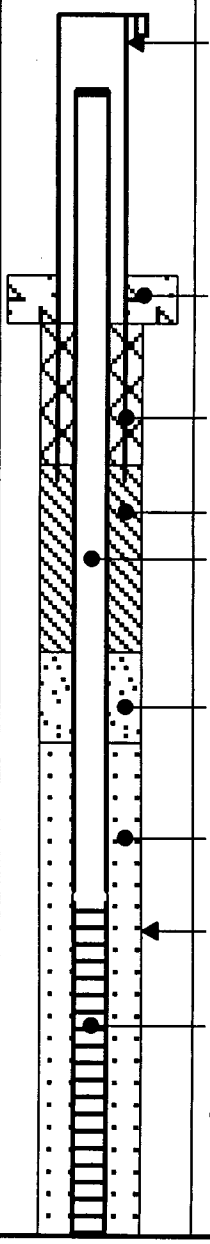
Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 19, 2002
Date Completed: November 19, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-104
Bottom of Well (ft/bgs): 16.7
Bottom of Boring (ft/bgs): 16.9
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 28.40

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
-3.0									
-1.0							Ground Surface		
1.0	SS-01	SS	1 2 1 1	0.8	0.0		**FILL MATERIAL** 0.0'-0.4' Gravel; loose; dry to wet. 0.4'-4.0' Brown and gray silty clay; dry to moist; soft; with gravel and rock fragments.		
3.0	SS-02	SS	WOH 1 3 5	0.9	0.0				
5.0	SS-03	SS	5 9 9 9	1.2	0.0		**CLAYEY SILT** 4.0'-6.0' Yellow-brown and gray (10YR 5/8 and GLEY2 4/1 10B); mottled; moist to wet; cohesive; low plasticity; stiff; with very fine-grained sand and iron staining. 6.0'-8.0' Brown (10YR 5/3 and 7.5YR 4/6); dry to moist; stiff; no plasticity; cohesive; with trace manganese staining.		
7.0	SS-04	SS	5 4 8 7	1.7	0.0				
9.0	SS-05	SS	5 8 7 5	1.8	0.0		**SAND** Grayish-brown (10YR 4/2); very fine to fine-grained; wet; medium dense to dense; and trace silt. 8.0'-8.9' Cohesive and soft. *(Encountered water @ 8.0 feet bgs.)*		



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Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 19, 2002
Date Completed: November 19, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-104
Bottom of Well (ft/bgs): 16.7
Bottom of Boring (ft/bgs): 16.9
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 28.40

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-06	SS	18 13 14 14	1.9	0.0		11.7'-12.0' Containes coarse-grained gravel.		8-inch dia. borehole
12.0	SS-07	SS	16 17 19 17	1.8	0.0		**SAND and GRAVEL** Grayish-brown, yellowish-brown, and bluish-gray (10YR 4/2, 10YR 4/4, and GLEY2 4/1 10B); wet; dense; very fine to coarse-grained; and no silt.		Screened Pipe
14.0	SS-08	SS	WOH 3 3 6	1.3	0.0		**WEATHERED SAPROLITE** Green, white, gray, and black; dry to moist; soft; very highly weathered; clayey; with rock fragments.		Coarse Silica Sand
16.0	SS-09	SS	8 50/0.4'	0.9	0.0		*Spoon refusal at 16.9 feet bgs.*		2-inch, flush-couple, PVC Bottom Cap
							Bottom of Borehole		
18.0							Notes: AU - Hollow Stem Auger SS - Split Spoon Sample NA - Not Applicable bgs - below ground surface WOH - Weight Of Hammer		
20.0									
2.0									

Field Scientist: Joseph J. Ozog, Jr.

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Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 25, 2002
Date Completed: November 25, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-106
Bottom of Well (ft/bgs): 15.8
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 7.0
Surface Elevation (ft/msl): 9.99

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery (feet) / RQD (Percent)	PID/OVA Reading (ppm)	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
0.0							Ground Surface		
	SS-01	SS	3 8 9 6	1.3	23.4		**FILL MATERIAL** 0.0'-0.6' Soil with rock fragments; dry to moist; and loose. 0.6'-2.0' Gray-brown silt and sand with rock and slag fragments; dry; cohesive; stiff; with iron staining.		8-inch by 10-inch Flush Cover with Concrete Pad Concrete
2.0	SS-02	SS	4 3 2 4	1.2	*		**CLAYEY SILT** Brown (7.5YR 5/6) with very fine-grained sand; dry to moist; stiff; low plasticity; with slight gray mottling and iron staining.		Bentonite Pellets 2-inch ID, Sch. 40, Flush-couple, PVC Riser Pipe w/expandable locking cap
4.0	SS-03	SS	5 5 5 5	0.0	NA				Fine Sand
6.0	SS-04	SS	3 3 4 6	1.8	**		6.0'-7.0' Same, but moist; no plasticity; with black staining and a solvent-type odor. **SAND** *Encountered water at 7.0 feet bgs.* 7.0'-8.0' Brown (7.5YR 4/4 and 7.5YR 4/2); very fine to medium-grained; wet; loose; with a trace of silt. Contains a product sheen on water surface and a kerosene or solvent-type odor.		Coarse Silica Sand
8.0	SS-05	SS	6 7 9 8	2.0	43.1		8.0'-10.0' Gray (7.5YR 5/1 and 4/1); very fine to coarse-grained; wet; loose to dense; with a trace of gravel, mica fragments, and iron staining. Contains a slight odor.		2-inch ID, Sch. 40, Flush-couple, PVC Screened Pipe (0.010-inch slot) 8-inch dia. borehole
10.0									

Field Scientist: Joseph J. Ozog, Jr.
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Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 25, 2002
Date Completed: November 25, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-106
Bottom of Well (ft/bgs): 15.8
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 7.0
Surface Elevation (ft/msl): 9.99

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery (feet) / RQD (Percent)	PID/OVA Reading (ppm)	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-06	SS	10 7 4 6	0.9	45.5		**SAND and GRAVEL** Brown (7.5YR 4/6 and 4/2); very fine to coarse-grained; wet; and dense.		8-inch dia. borehole
12.0	SS-07	SS	7 9 10 9	2.0	36.2		12.0'-14.0' Contains iron staining.		Screened Pipe
14.0	SS-08	SS	11 17 25 24	1.5	4.6		14.0'-15.3' Same, but brown and gray (7.5YR 5/6 and 4/1). 15.3'-16.0' Same, but gray (7.5YR 4/1).		Coarse Silica Sand 2-inch, flush-couple, PVC Bottom Cap Collapse
16.0							Bottom of Borehole		
18.0									
20.0									

Notes:

AU - Hollow Stem Auger
SS - Split Spoon Sample
NA - Not Applicable
bgs - below ground surface
* - PID range 22.3-50.6 ppm
** - PID at 6.0'-7.0' is 456.8 ppm and 7.0'-8.0' is 406.6 ppm

Field Scientist: Joseph J. Ozog, Jr.

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Date:

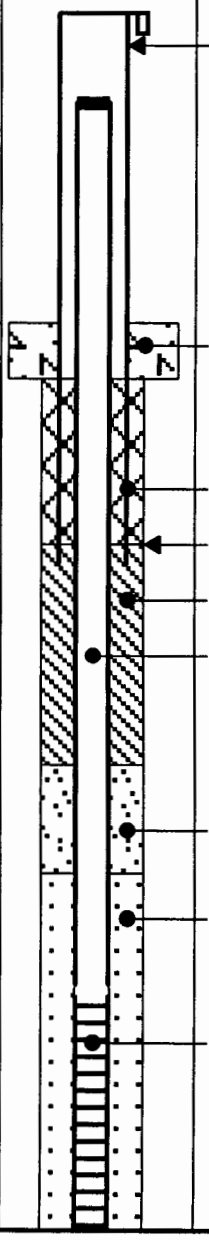
Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 20, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-107
Bottom of Well (ft/bgs): 16.0
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 11.90

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
-3.0									
-1.0							Ground Surface		
1.0	SS-01	SS	3 5 7 4	1.1	2.4-6.7		**FILL MATERIAL** Brown silt and sand with clay; dense; with slag, brick, and rock fragments. 0.0'-2.0' Dry.		
							2.0'-2.4' Wet and loose.		
3.0	SS-02	SS	3 2 3 3	1.8	0.0		**SILTY CLAY** Yellowish-brown (10YR 5/6); dry; soft to stiff; low to medium plasticity; with very fine-grained sand. 4.0'-4.5' Same, but with a trace of gray mottling.		
5.0	SS-04	SS	3 5 6 7	1.2	0.0		**CLAYEY SILT** Yellowish-brown (10YR 5/6) with very fine-grained sand; cohesive; stiff; slight plasticity; with a trace of grayish-brown (10YR 5/2) mottling. 4.5'-7.2' Dry.		
7.0	SS-05	SS	7 5 6 7	1.2	0.0		7.2'-8.0' Same, but moist, no plasticity, and increasing gray mottling.		



Field Scientist: Joseph J. Ozog, Jr.
Checked By:
Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 20, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-107
Bottom of Well (ft/bgs): 16.0
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 11.90

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-06	SS	8 6 7 5	2.0	*		*Encountered water at 8.0 feet bgs.* 8.0'-9.2' Same, but wet and with a slight solvent odor.		
10.0							**SANDY SILT** Yellowish-brown (10YR 5/8) with grayish-brown (10YR 5/2) mottling; wet; trace of clay; stiff; cohesive; no plasticity; with a strong solvent odor and a product sheen on water surface.		
	SS-07	SS	10 10 8 6	1.3	417.4		**SAND and GRAVEL** Brown (10YR 4/3); wet; medium dense to dense; very fine to fine-grained; with black staining and moderate solvent odor. 12.0'-14.0' Same, but increasing coarse-grained gravel and slight odor.		8-inch dia. borehole
12.0									
	SS-08	SS	5 5 5 5	1.5	187.8				Screened Pipe
14.0							14.0'-16.0' Same, only brown (7.5YR 4/6) and no odor.		Coarse Silica Sand
	SS-09	SS	10 12 13 12	2.0	2.4-4.9				
16.0							Bottom of Borehole		2-inch, flush-couple, PVC Bottom Cap
18.0							Notes: AU - Hollow Stem Auger SS - Split Spoon Sample NA - Not Applicable bgs - below ground surface * - PID readings 474.6 ppm (8.0'-9.2') and 1,134 ppm (9.2'-10.0')		

Field Scientist: Joseph J. Ozog, Jr.
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Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 19, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-110
Bottom of Well (ft/bgs): 15.3
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 11.10

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery (feet) / RQD (Percent)	PID/OVA Reading (ppm)	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
							Ground Surface		
0.0	SS-01	SS	6 23 17 10	1.4	7.8-17.1		**FILL MATERIAL** 0.0'-2.0' Very highly weathered concrete; dense; dry; with gravel and rock fragments.		8-inch by 10-inch Flush Cover with Concrete Pad Concrete
2.0	SS-02	SS	7 28 62 41	1.6	6.3-21.7		2.0'-8.0' Red-brown silt and very fine-grained sand; dry; loose to dense; with red brick, rock, gravel, and slag fragments.		Bentonite Pellets 2-inch ID, Sch. 40, Flush-couple, PVC Riser Pipe w/expandable locking cap
4.0	SS-03	SS	27 23 8 5	1.0	2.8-22.5				Fine Sand
6.0	SS-04	SS	5 6 5 5	1.1	9.8-14.1		6.0'-8.0' Same, but with fire brick fragments. 7.1'-7.2' Same, but moist.		Coarse Silica Sand
8.0	SS-05	SS	5 8 5 4	0.4	7.8		*Encountered water at 8.0 feet bgs.* 8.0'-12.0' Rock, brick, and slag fragments; loose; and wet.		2-inch ID, Sch. 40, Flush-couple, PVC Screened Pipe (0.010-inch slot) 8-inch dia. borehole
10.0									

Field Scientist: Joseph J. Ozog, Jr.
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Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 19, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-110
Bottom of Well (ft/bgs): 15.3
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 11.10

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery (feet) / RQD (Percent)	PID/OVA Reading (ppm)	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-06	SS	6 5 5 6	0.8	36.2		Same As Above.		8-inch dia. borehole
12.0	SS-07	SS	3 2 1 1	1.6	*		12.0'-13.8' Gray-brown silt with brick, slag, and rock fragments; cohesive; wet; and soft.		Screened Pipe
14.0	SS-08	SS	1 1 1 1	1.7	**		**SANDY SILT** Dark greenish-gray (GLEY1 3/1 10GY) with clay; wet; very soft; cohesive; low plasticity; very fine-grained sand; with trace wood fragments and a strong petroleum odor. 13.8'-14.0' Stained black.		Coarse Silica Sand 2-inch, flush-couple, PVC Bottom Cap Collapse
16.0							Bottom of Borehole		
18.0									
20.0									

Notes:

AU - Hollow Stem Auger
SS - Split Spoon Sample
NA - Not Applicable
bgs - below ground surface
* - PID range 145.1-211.2 ppm
** - PID range 763.2-1016.5 ppm

Field Scientist: Joseph J. Ozog, Jr.

Checked By:

Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 20, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-111
Bottom of Well (ft/bgs): 15.7
Bottom of Boring (ft/bgs): 18.0
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 9.20

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery (feet) / RQD (Percent)	PID/OVA Reading (ppm)	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
-3.0									4-inch by 5-foot Steel Cover w/ Locking Cap
-1.0							Ground Surface		
1.0	SS-01	SS	3 5 8 10	1.7	2.6-4.8		**FILL MATERIAL** 0.0'-6.0' Brown and light gray silt, clay, and sand; dry; with rock, plastic, slag, brick, and gravel fragments; cohesive; and stiff.		Concrete Pad
3.0	SS-02	SS	7 7 5 4	1.8	*				Concrete Bentonite Pellets 2-inch ID, Sch. 40, Flush-couple, PVC Riser Pipe w/expandable locking cap
5.0	SS-03	SS	3 2 1 1	0.0	NA				Fine Sand
7.0	SS-04	SS	6 1 1 6	0.8	**		6.0'-8.0' Weathered concrete and slag; white and light gray; moist; soft; and cohesive.		Coarse Silica Sand 8-inch dia. borehole
9.0	SS-05	SS	15 21 50/0.1'	0.7	245.2		*Encountered water at 8.0 feet bgs.* 8.0'-10.6' Rock, brick, slag, and wood fragments; wet; dense to loose; with strong petroleum odor, oil droplets and product sheen on water surface.		2-inch ID, Sch. 40, Flush-couple, PVC Screened Pipe (0.010-inch slot)
	AU	AU	NA	NA	NA				

Field Scientist: Joseph J. Ozog, Jr.
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Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 20, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-111
Bottom of Well (ft/bgs): 15.7
Bottom of Boring (ft/bgs): 18.0
Depth to Encountered Water (ft/bgs): 8.0
Surface Elevation (ft/msl): 9.20

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery (feet) / RQD (Percent)	PID/OVA Reading (ppm)	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
							Same As Above.		
	SS-06	SS	3 1 1 1	1.4	***		**CLAYEY SILT** Dark greenish-gray (GLEY1 3/1 10GY) with very fine-grained sand; moist to wet; very soft; cohesive; with black staining, petroleum odor, and trace of organics.		8-inch dia. borehole
12.0									
	SS-07	SS	WOH 1 1 1	0.9	****		**PEAT** Dark greenish-gray (GLEY1 3/1 10GY); silt and organics (leaves, wood, grass, and roots); very soft; and no plasticity.		Screened Pipe
14.0									Coarse Silica Sand
	SS-08	SS	WOH 1 1	0.4	148.4		**SILTY CLAY** Dark gray (10YR 4/1); moist; very soft; medium to high plasticity; with organics (roots and leaves) and a slight odor.		
16.0									2-inch, flush-couple, PVC Bottom Cap
	SS-09	SS	WOH 3 6 6	1.8	157.1		**CLAYEY SILT** Dark gray (10YR 4/1); with very fine-grained sand; dry; cohesive; stiff; very low plasticity; with a trace of organics.		2-inch dia. borehole backfilled w/Coarse Silica Sand
18.0							Bottom of Borehole		
20.0									

Notes:

AU - Hollow Stem Auger
SS - Split Spoon Sample
NA - Not Applicable
bgs - below ground surface
WOH - Weight Of Hammer
* - PID reading 29.2-79.2 ppm
** - PID reading 45.1-104.2 ppm
*** - PID reading 1112.4-870.7 ppm
**** - PID reading 765.2-445.4 ppm

Field Scientist: Joseph J. Ozog, Jr.
Checked By:
Date:

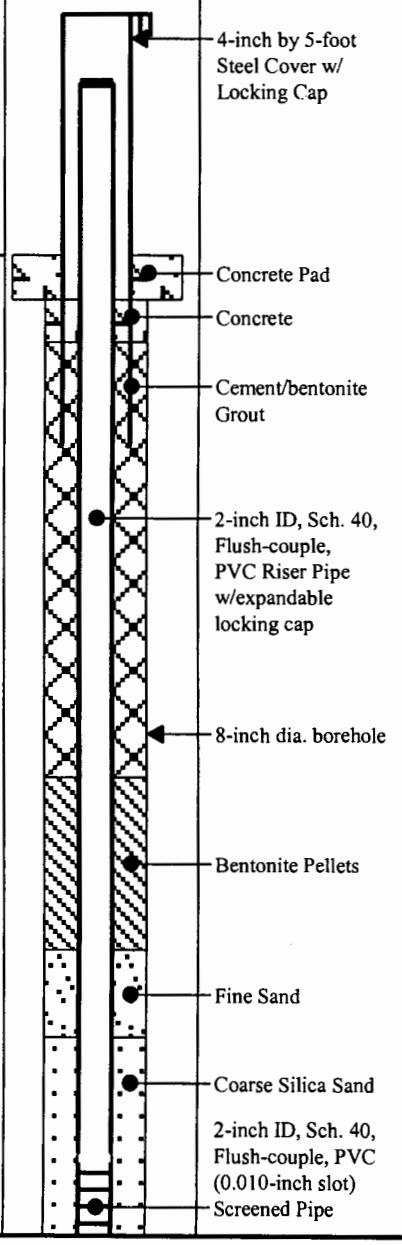
Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 21, 2002
Date Completed: November 21, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-113
Bottom of Well (ft/bgs): 20.3
Bottom of Boring (ft/bgs): 20.3
Depth to Encountered Water (ft/bgs): 10.8
Surface Elevation (ft/msl): 16.10

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description
-3.0							
-1.0							Ground Surface
1.0	SS-01	SS	2 6 10 9	1.3	1.2-3.2		**FILL MATERIAL** 0.0'-7.0' Gray and brown silt, sand, and clay; dry to moist; cohesive; plastic; soft to stiff; with rock, brick, and concrete fragments.
3.0	SS-02	SS	9 8 6 7	0.0	NA		
5.0	SS-03	SS	10 9 9 3	1.6	4.2-17.6		4.0'-6.0' Same, but with black staining and a petroleum odor.
7.0	SS-04	SS	1 21 22 10	1.7	*		6.0'-7.0' Same, but wet and very soft. 7.0'-10.8' Slag, concrete, and wood fragments with silt, clay, and sand; dry; loose to dense; with black staining.
9.0	SS-05	SS	10 12 13 22	1.4	**		
11.0	SS-06	SS	3 4	1.4	***		10.8'-12.0' Black rubber and fiberous material with soil and rock; wet; with petroleum.



Well/Piezometer Construction Detail

Remarks

Field Scientist: Joseph J. Ozog, Jr.

Checked By:

Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 21, 2002
Date Completed: November 21, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-113
Bottom of Well (ft/bgs): 20.3
Bottom of Boring (ft/bgs): 20.3
Depth to Encountered Water (ft/bgs): 10.8
Surface Elevation (ft/msl): 16.10

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-06	SS	3 6	1.4	***				
13.0	SS-07	SS	10 11 10 6	1.8	23.7		12.0'-12.8' Slag and rock fragments with red silt and sand, wet, and loose. 12.8'-14.6' Same, but stained black with a moderate to strong petroleum odor and a product sheen on water surface.		8-inch dia. borehole Screened Pipe Coarse Silica Sand
5.0	SS-08	SS	3 4 2 3	1.3	****		**SILTY CLAY** Brown and dark gray (10YR 4/3 and 10YR 4/1) with very fine-grained sand; mottled; medium to high plasticity; with a trace of gravel and iron staining. 14.6'-16.0' Dry and stiff. 16.0'-20.3' Moist to wet; soft; with manganese staining, slight petroleum odor, and a trace of wood fragments, and gravel.		
17.0	SS-09	SS	WOH 2 2 2	1.4	24.0				
19.0	SS-10	SS	3 2 2 2	1.3	20.2				2-inch, flush-couple, PVC Bottom Cap
	AU	AU	NA	NA	NA				
21.0							Bottom of Borehole		
23.0							Notes: AU - Hollow Stem Auger SS - Split Spoon Sample NA - Not Applicable bgs - below ground surface WOH - Weight Of Hammer * - PID readings 10.2-17.7 ppm ** - PID readings 18.3-19.4 ppm *** - PID readings 23.2-25.2 ppm **** - PID readings 23.8-23.9 ppm		
25.0									

Field Scientist: Joseph J. Ozog, Jr.

Checked By:

Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 20, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-115
Bottom of Well (ft/bgs): 15.8
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 10.0
Surface Elevation (ft/msl): 12.90

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
-3.0									
-1.0							Ground Surface		
1.0	SS-01	SS	10 25 26 7	1.3	0.0		**FILL MATERIAL** 0.0'-0.6' Brown silt and sand; loose; damp; with rock fragments. 0.6'-2.0' White and light gray, very highly weathered concrete with gravel. 2.0'-2.6' Reddish-brown silty material; wet; cohesive; soft; and no plasticity. 2.6'-4.0' Gravel and concrete fragments, dry.		4-inch by 5-foot Steel Cover w/ Locking Cap Concrete Pad Concrete Bentonite Pellets 2-inch ID, Sch. 40, Flush-couple, PVC Riser Pipe w/expandable locking cap Fine Sand Coarse Silica Sand 8-inch dia. borehole 2-inch ID, Sch. 40, Flush-couple, PVC Screened Pipe (0.010-inch slot)
	SS-02	SS	7 50/0.3'	0.8	0.0				
3.0	AU	AU	NA	NA	NA		4.0'-6.5' Concrete.		
5.0	SS-03	SS	50/0.2'	0.1	NA				
7.0	AU	AU	NA	NA	NA		6.5'-8.0' Silt and sand; damp; loose; with wood, concrete, gravel, and brick fragments, and with a strong "pine"-type odor.		
9.0	SS-04	SS	WOH 2 3 4	1.2	13.2		**SILTY CLAY** Grayish-brown and gray (10YR 5/2 and 5/1) with very fine-grained sand; dry; mottled; soft to stiff; medium to high plasticity; with trace of mica and iron staining.		

Field Scientist: Joseph J. Ozog, Jr.
Checked By:
Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 20, 2002
Date Completed: November 20, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-115
Bottom of Well (ft/bgs): 15.8
Bottom of Boring (ft/bgs): 16.0
Depth to Encountered Water (ft/bgs): 10.0
Surface Elevation (ft/msl): 12.90

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-05	SS	14 22 19 21	1.2	*		**SILTY GRAVEL** *Encountered water at 10.0 feet bgs.* Dark gray (10YR 4/1); wet; cohesive; hard; no plasticity; very fine to coarse-grained sand and gravel; with a strong petroleum odor.		8-inch dia. borehole
12.0	SS-06	SS	18 11 8 12	2.0	1118.2		**SAND and GRAVEL** Brown (10YR 4/3); wet; very fine to coarse-grained; no silt; dense; with strong petroleum odor and product sheen on water surface.		Screened Pipe
14.0	SS-07	SS	18 24 13 12	1.0	75.0		14.0'-16.0' Same, but grayish-brown (10YR 4/2).		Coarse Silica Sand 2-inch, flush-couple, PVC Bottom Cap Collapse
16.0							Bottom of Borehole		
18.0							Notes: AU - Hollow Stem Auger SS - Split Spoon Sample NA - Not Applicable bgs - below ground surface WOH - Weight Of Hammer * - PID readings 1257.2-1335.2 ppm		
20.0									
22.0									

Field Scientist: Joseph J. Ozog, Jr.
Checked By:
Date:

Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 19, 2002
Date Completed: November 19, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-117
Bottom of Well (ft/bgs): 16.6
Bottom of Boring (ft/bgs): 19.0
Depth to Encountered Water (ft/bgs): 10.0
Surface Elevation (ft/msl): 30.59

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
							Ground Surface		
0.0	SS-01	SS	1 2 4 3	0.7	0.0		**TOPSOIL** With organics. **FILL MATERIAL** Orange-brown and gray clayey silt; cohesive; and low plasticity. 0.3'-4.0' Dry and stiff.		8-inch by 10-inch Flush Cover with Concrete Pad
2.0	SS-02	SS	3 3 4 2	0.6	0.0				Concrete; Bentonite Pellets; 2-inch ID, Sch. 40, Flush-couple, PVC Riser Pipe w/expandable locking cap
4.0	SS-03	SS	4 50/0.4'	0.8	0.0		4.0'-4.9' Wet and soft. 4.9'-6.0' Contains lumber fragments and moist.		Fine Sand
	AU	AU	NA	NA	NA				
6.0	SS-04	SS	4 5 5 5	1.2	0.0		**SILTY CLAY** Brown and bluish-gray (7.5 YR 5/8 and GLEY 2 4/1 10B); mottled; dry; stiff; low to medium plasticity; medium toughness; with very fine-grained sand.		Coarse Silica Sand
8.0	SS-05	SS	4 5 5 6	2.0	0.0		8.0'-10.0' Contains moist zones and trace root fragments.		2-inch ID, Sch. 40, Flush-couple, PVC Screened Pipe (0.010-inch slot)
10.0	SS-06	SS	1 2 5 8	2.0	0.0		**SAND** 10.0'-12.0' Yellowish-brown and bluish-gray (7.5YR 5/8 and GLEY2 4/1 10B); wet; loose; fine to medium-grained; and trace silt. *Encountered water @ 10.0 feet bgs.*		8-inch dia. borehole
12.0									

Field Scientist: Joseph J. Ozog, Jr.
Checked By:
Date:

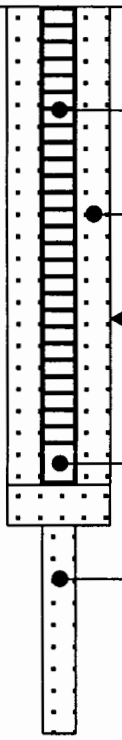
Client: General Chemical

Location: Claymont, DE
Project No.: 5455B-02
Date Started: November 19, 2002
Date Completed: November 19, 2002
Driller: Eichelbergers, Inc.

Boring No.: MW-117
Bottom of Well (ft/bgs): 16.6
Bottom of Boring (ft/bgs): 19.0
Depth to Encountered Water (ft/bgs): 10.0
Surface Elevation (ft/msl): 30.59

Earth Sciences Consultants, Inc.

Depth (feet)	Sample Number	Sample Type	SPT Blows (6")	Sample Recovery	PID/OVA Reading	Lithologic Profile	Profile Description	Well/Piezometer Construction Detail	Remarks
	SS-07	SS	3 6 10 15	2.0	0.0		12.0'-12.8' Same color, but fine to coarse-grained sand; medium dense to dense; with a trace of gravel and iron staining. 12.8'-14.0' Same, but dark yellowish-brown and dark bluish-gray (10YR 4/4 and GLEY2 4/1 10B) with a trace of manganese staining.		
14.0	SS-08	SS	16 18 21 18	2.0	0.0				
16.0	AU	AU	NA	NA	NA				
	SS-09	SS	2 2 4 7	1.2	0.0		**WEATHERED SAPROLITE** White, light gray, and black; very highly weathered; soft; clayey; with weathered rock fragments.		
18.0							Bottom of Borehole		
20.0							Notes: AU - Hollow Stem Auger SS - Split Spoon Sample NA - Not Applicable bgs - below ground surface		
22.0									
24.0									



Field Scientist: Joseph J. Ozog, Jr.
Checked By:
Date: